

ODRL SERVICE LICENSING PROFILE (ODRL-S)

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Service Oriented Computing

▶ Software

- ▶ perceived as a product, requiring possession and ownership.

▶ Software-as-a-service

- ▶ a mechanism of renting software where users are subscribed to the software they use.



Service Oriented Computing

- ▶ Service Oriented Computing (SOC)

- ▶ allows the software-as-a-service concept to expand allowing applications to be constructed on the fly

- ▶ allows services to be reused everywhere and by anybody.



Service Oriented Computing

- ▶ **Services are...**

- ▶ Software fragments representing a business functionality that can be composed with other services.

- ▶ **A service consists**

- ▶ ***interface*** part defining functionality visible to the external world.
- ▶ ***implementation*** part realizing the interface.



Service Oriented Computing

Characteristics	Software	Services
<i>Nature</i>	Stand-alone	Distributed
<i>Accessibility</i>	Guaranteed	Network dependent
<i>Reuse Level</i>	Very low	Excellent
<i>Composition</i>	Discouraged	Fundamental
<i>Data Separability</i>	Possible	Inseparable
<i>Consumer's Ownership</i>	Individual	No ownership



Service License

- ▶ *Describes the use of and access to services.*
- ▶ *A Complementary Concept for the Completeness of service description.*
- ▶ **To enable a broader usage of service that balances rights of the owner and the consumer.**
- ▶ *No negotiations between the licensor and the licensees.*



Service License: An Example (from Amazon)

[1.A.1] You may write an Application that interfaces with Amazon Web Services.

[1.A.4] You may not interfere or attempt to interfere in any manner with the functionality or proper working of Amazon Web Services.

[1.B.1] You may display the Amazon Properties in any format you choose, subject to the terms and conditions contained in this Agreement.

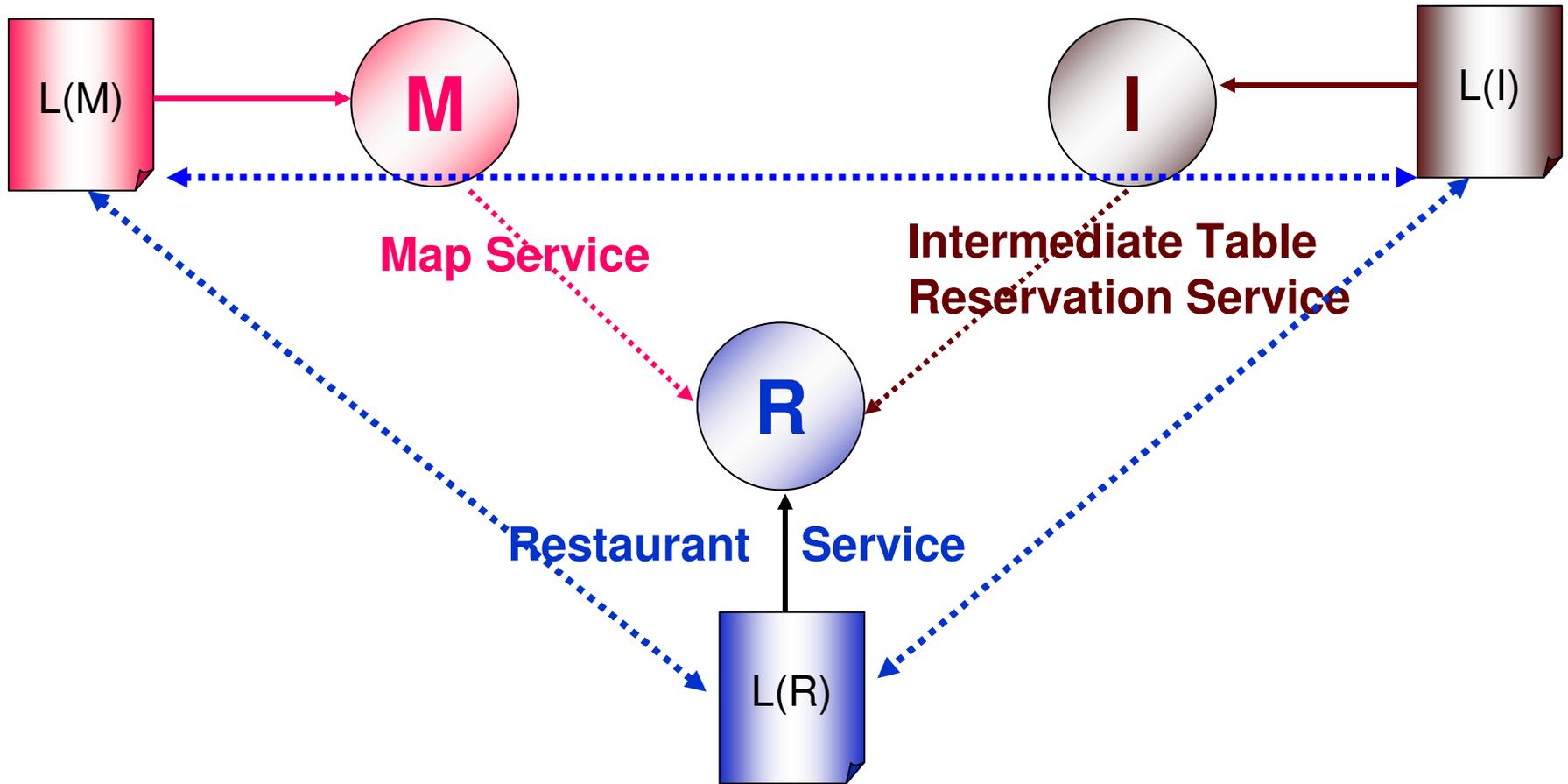
[1.B.6] You may not store any Amazon Properties in any database, or network of servers, or other repository, either with or without a central location, which enables others to share the Amazon Properties without our prior written consent.



Today's Service Descriptions

- ▶ **WSDL is the standard way to describe what a service does.**
 - ▶ **Researches continue on languages to enhance and to complete the description provided by WSDL...**
 - ▶ WSLA (Web Service Level Agreement)
 - ▶ SLAng (SLA notation generator)
 - ▶ WSOL (Web Service Offerings Language)
 - ▶ WS-Policy
 - ▶ WSPL (Web Services Policy Language)
 - ▶ ▶ ebXML CPP/CPA
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Scenario of Service Licensing



Expressing a Service License

- ▶ Licensing clauses are unexplored by the currently available service description standards and languages.
- ▶ Instead of proposing a new language for describing the licensing services, we could draft using existing rights expression languages such as XrML, ODRL etc.,

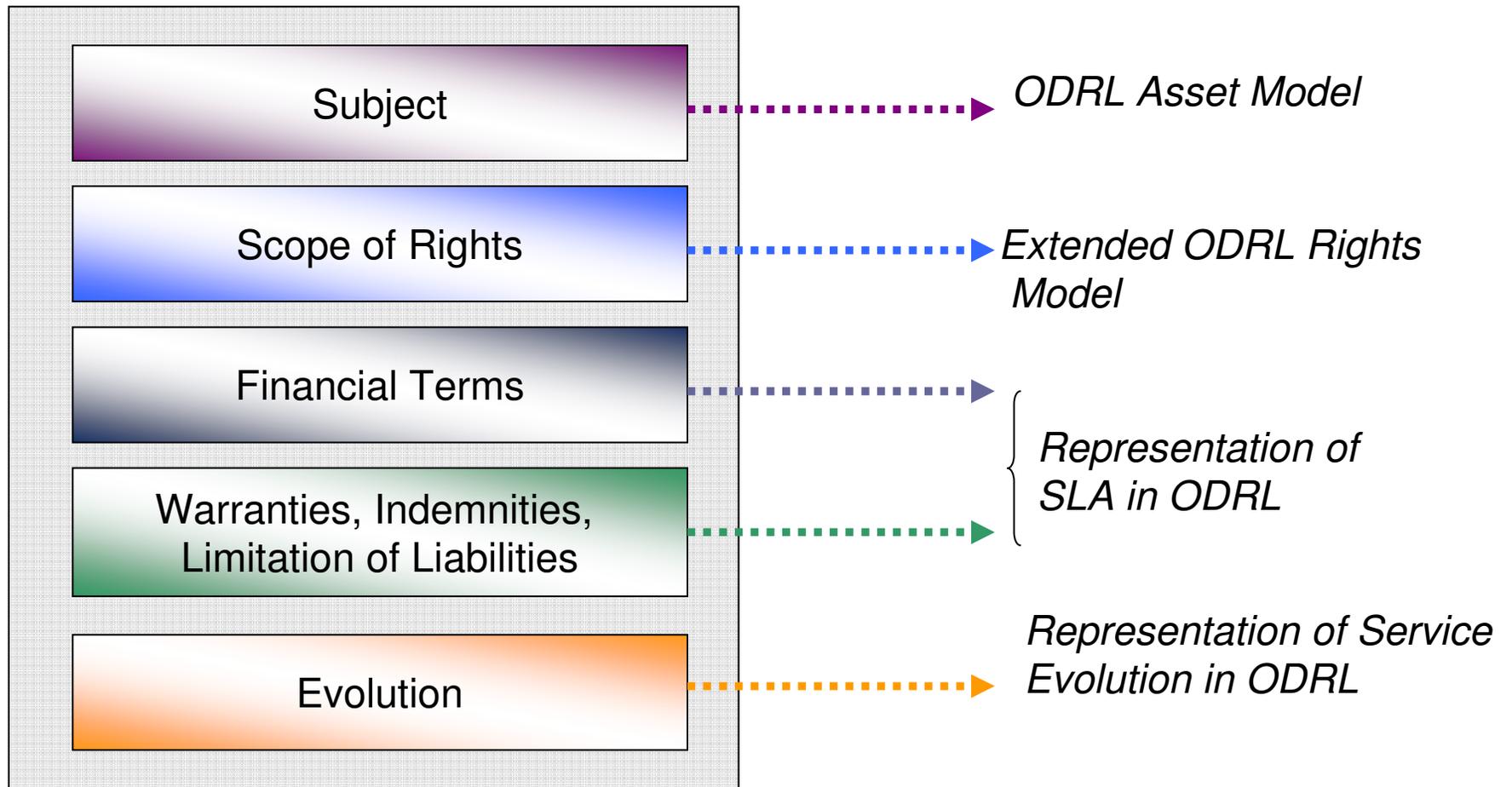


Intentions to Select ODRL for Services

- ▶ ODRL is an open standard language, for expressing rights information in XML.
- ▶ Being published in the W3C, ODRL has a wide acceptance.
- ▶ ODRL is supported by several industries and consortia.
- ▶ ODRL is focused on rights expression, thus could incorporate the specific licensing clauses related to services.



ODRL-S: Describing License Clauses



ODRL-S Subject

- ▶ relates to the definition of the service being licensed.
- ▶ includes
 - ▶ a unique identification code for the service,
 - ▶ service name,
 - ▶ service location, and
 - ▶ other relevant information.
- ▶ directly adopt the **ODRL Asset Model**.



ODRL-S Scope of Rights

▶ Adaptation

A service S is reproduced as an other independent service S' if $O(S') \neq O(S)$ and S and S' are independent in execution.

▶ Composition

A service S is composite if its operations depend on operations belonging to n other services $O(S) \supset \{o_f : o_f \in O(S_i), i = [1, \dots, n]\}$.

▶ Derivation

A service S' is said to be derived from S if $O(S') \supseteq O(S)$ on satisfying

- (i) To exist S' , S should be a Free/Open Service and
- (ii) S and S' are independent in execution.



ODRL-S Scope of Rights

▶ Attribution

- ▶ Ascribing a service to the entity responsible for its creator (using the semantics of ODRL).

▶ Sharealike

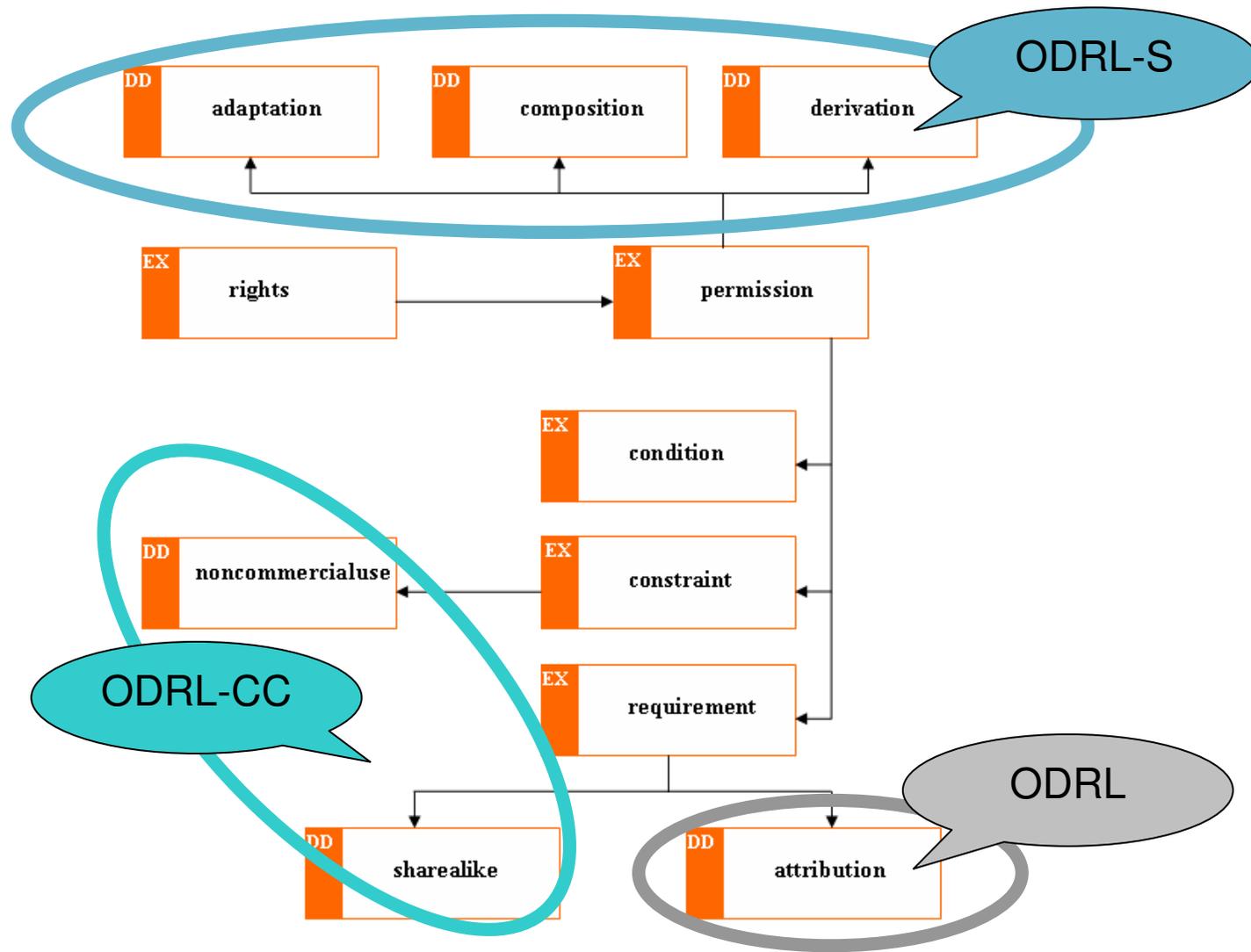
- ▶ A service could expect the service being composed or derived to reflect the same terms and conditions of itself (using the semantics of ODRL-CC profile).

▶ Non-commercial Use

- ▶ Denying the use for commercial purposes (using the semantics of ODRL-CC profile).



ODRL-S Scope of Rights

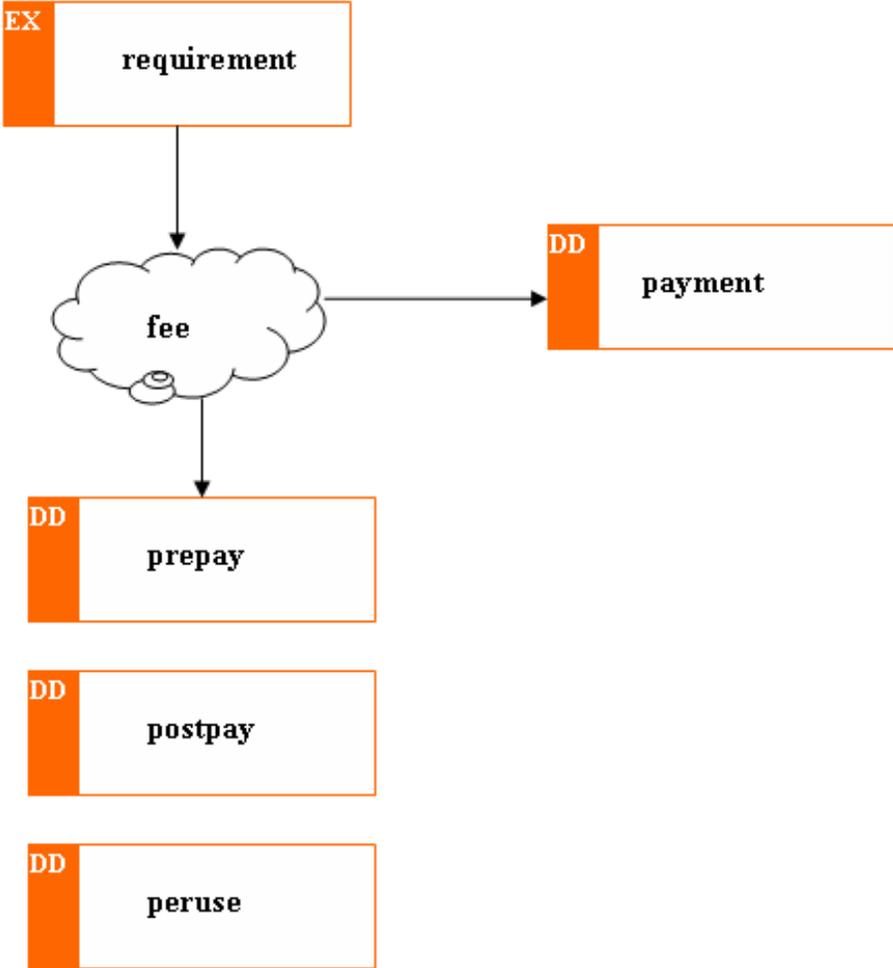


ODRL-S Financial Terms

- ▶ A service license leverages the way of making revenue opportunities and generating new markets.
- ▶ We adopt ODRL payment model for services to represent the Financial Terms model in ODRL-S.



ODRL-S Financial Terms



ODRL-S WIL

▶ **Warranty**

- ▶ Describe functional and non-functional properties of services, provided as a way of attracting consumers (similar to WSLA and SLAng terms).

▶ **Indemnity**

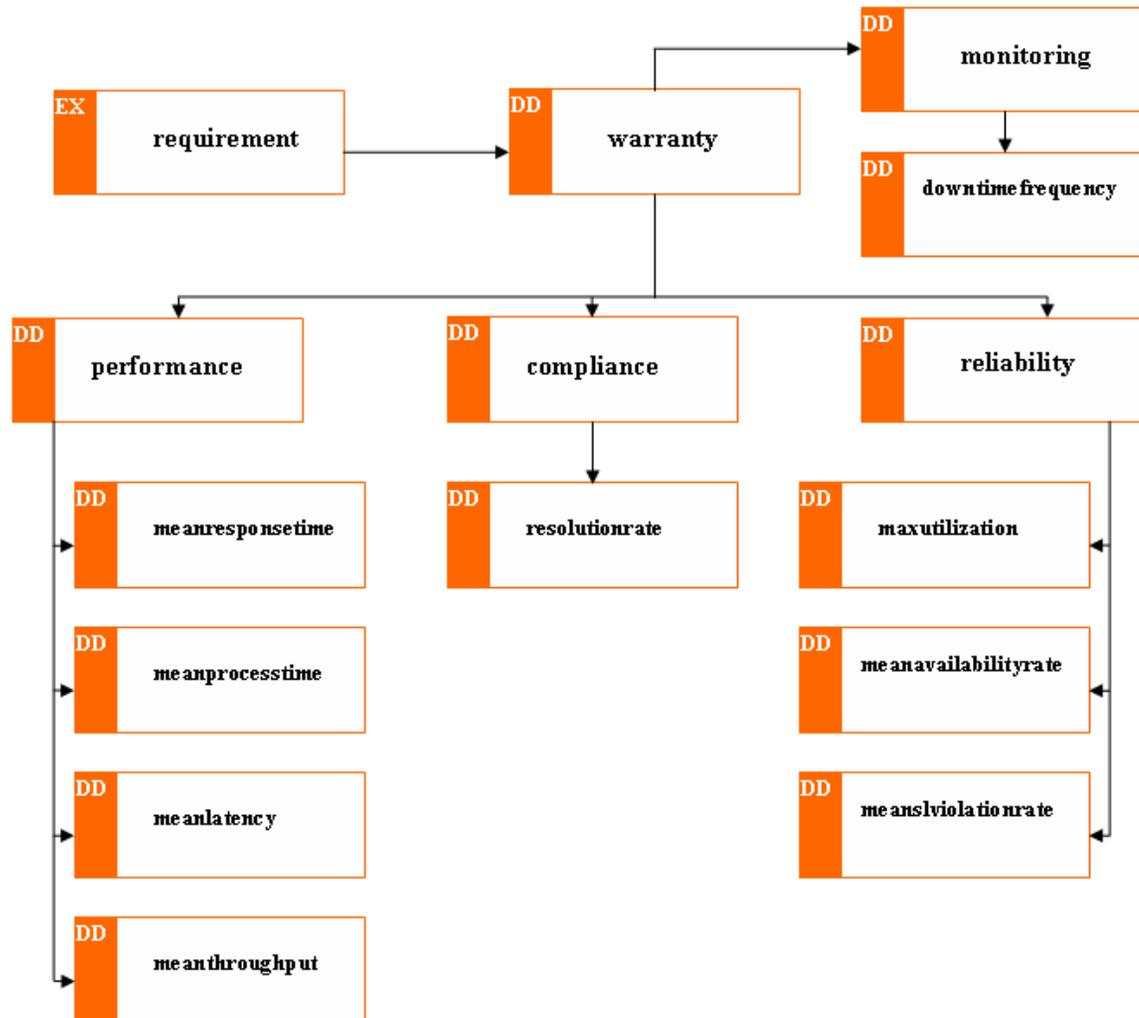
- ▶ A way of defense by the licensor for the licensee if a third party sues the licensee for IPR violations.

▶ **Limitation of liability**

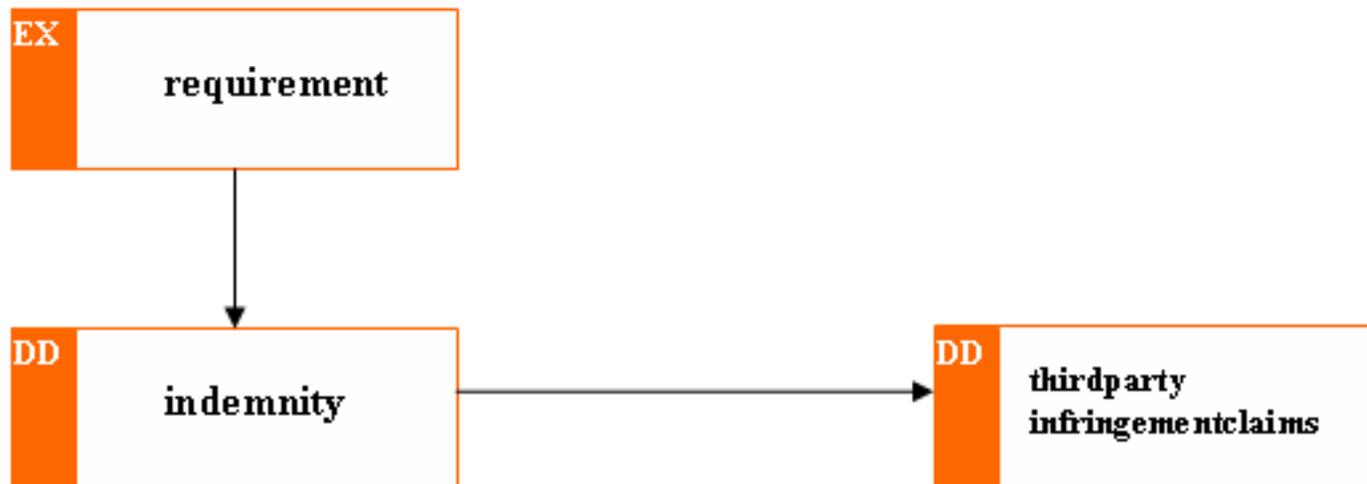
- ▶ Restrict the liability of each of the parties under the license agreement.



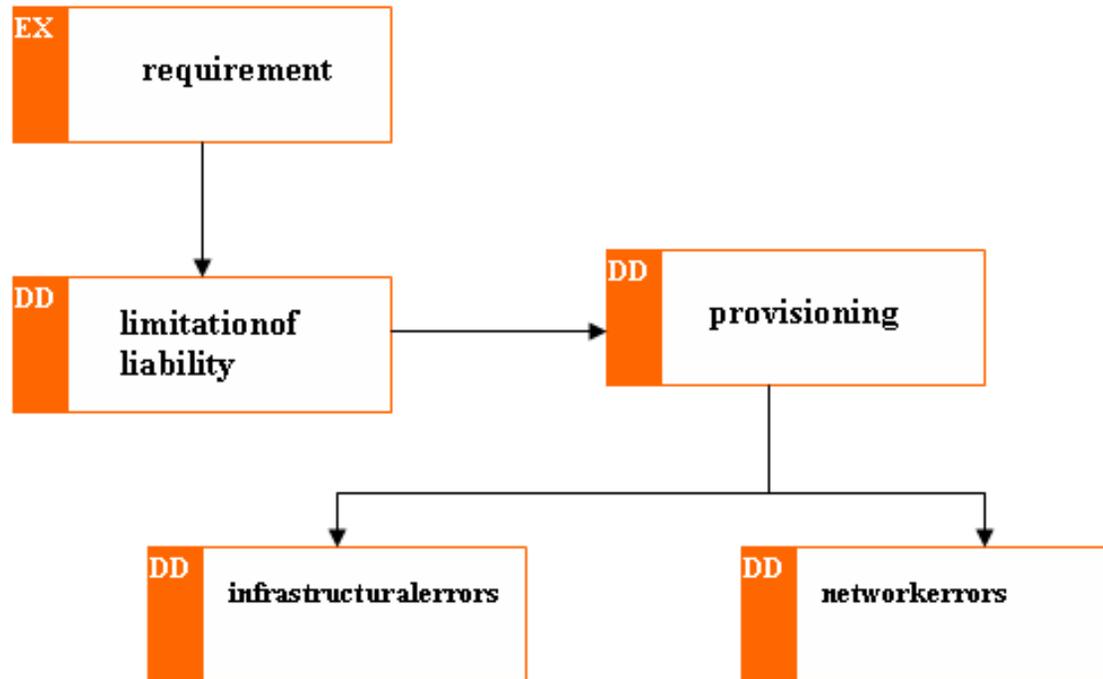
ODRL-S WIL (Warranty)



ODRL-S WIL (Indemnity)



ODRL-S WIL (Limitation of liability)

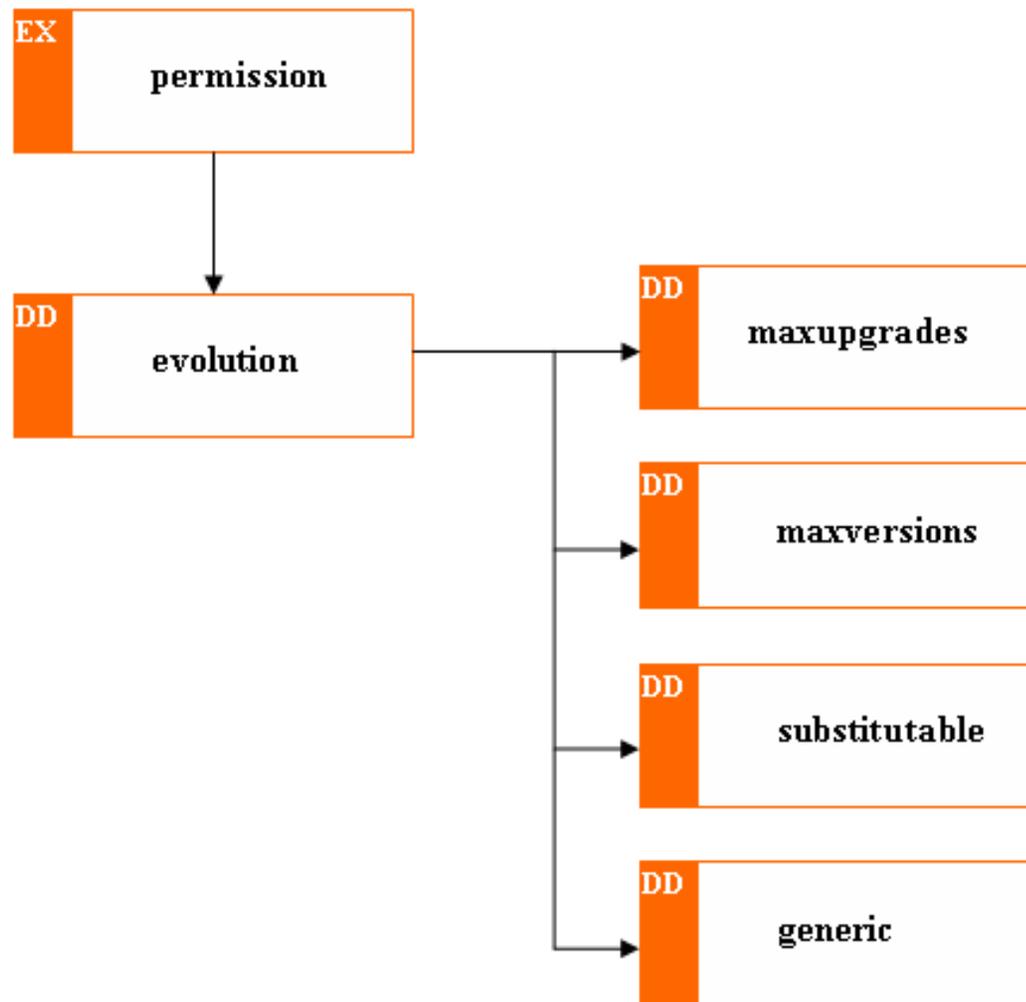


ODRL-S Evolution

- ▶ **A service can evolve in the following ways:**
 - ▶ Modifications by the provider in functional and/or non-functional properties of the service, represented by new releases or new versions.
 - ▶ Termination of the current running service and substitution by a new service with different behavior.
 - ▶ Switching to a different service license.



ODRL-S Evolution



Conclusions

- ▶ A way of expression of licensing clauses for services
- ▶ Developed a new profile for ODRL describing service licensing clauses (including SLA terms)



ODRL-S Working Group (ODRL-S) WG

The ODRL initiative announces the ODRL-S Working Group to develop a standard for representing service licensing.



ODRL-S Working Group (ODRL-S) WG

We welcome you to participate in discussions of WG to make ODRL-S as a complete profile for service licensing.



ODRL-S Working Group (ODRL-S) WG

**Please email your
comments, questions, and feedback on
ODRL Service Licensing Profile
to**

odrl-s@dit.unitn.it



ODRL Service Licensing Profile (ODRL-S)

Thank You !

